WHAT IS CLAIMED IS:

1. An inductor comprising a surface rotational portion, the surface rotational portion including first and second base edges, wherein the surface rotational portion has a length measured from the first base edge to the second base edge, the length being substantially larger than a thickness of the surface rotational portion.

2. The inductor of claim 1 wherein the length of surface rotational portion is of substantially the same order of magnitude as each of the height and width of the surface rotational portion.

3. The inductor of claim 1 wherein the length of surface rotational portion is substantially larger than each of the height and width of the surface rotational portion.

4. The inductor of claim 1, further comprising:

an input node coupled to a first side edge of the surface rotational portion, the first side edge extending along the length of the inductor from a first base end of the inductor to a second base end of the inductor;

an output node coupled to a second side edge of the surface rotational portion, the second side edge extending along the length of the inductor from a first base end of the inductor to a second base end of the inductor, the first and second side edges being at opposite ends of the surface rotational portion.

5. The inductor of claim 4 wherein the input and output nodes are surface nodes.

6. The inductor of claim 1, wherein the surface rotational portion is substantially electrically symmetrical with respect to current.

7. The inductor of claim 1, wherein the surface rotational portion is formed to guiding current flow in one loop.

8. The inductor of claim 1, wherein the surface rotational portion is cylindrical.

9. The inductor of claim 8, wherein the surface rotational portion is formed such that a radius of an area enclosed by the surface rotational portion on a plane crossing the surface rotational portion is substantially constant over a length of the inductor.

10. The inductor of claim 1, wherein the surface rotational portion is formed such that the surface rotational portion has a face which may be generated by a family of all lines parallel to a given generatrix line and passing through a directrix curve in a plane.

11. The inductor of claim 10, wherein the directrix curve is rectangular.

12. The inductor of claim 1, wherein the surface rotational portion is duct shaped.

13. The inductor of claim 1, wherein the surface rotational portion comprises:
a first substantially flat side coupled to receive a current from an input node;
a second substantially flat side coupled to receive the current from the first substantially flat side;
a third substantially flat side coupled to receive the current from the second substantially flat side; and
a fourth substantially flat side coupled to receive the current from the third substantially flat side and to provide the current to an output node.

14. The inductor of claim 13, wherein
the first and third sides are substantially parallel; and
the second and fourth sides are substantially parallel.

15. The inductor of claim 14, wherein the first side is substantially perpendicular to the second side.

16. The inductor of claim 1, wherein the surface rotational portion comprises:
a first substantially flat side coupled to receive a current from an input node;
a second substantially flat side coupled to receive the current from the first substantially flat side;
a third substantially flat side coupled to receive the current from the second substantially flat side;
a fourth substantially flat side coupled to receive the current from the third substantially flat side; and
a fifth substantially flat side coupled to receive the current from the fourth substantially flat side and to provide the current to an output node.

17. The inductor of claim 16, wherein
the first and third sides are substantially parallel;
the second and fourth sides are substantially parallel; and
the first side is substantially perpendicular to the second side.

18. The inductor of claim 17, wherein the first and fifth sides are in substantially the same plane.

19. The inductor of claim 17, wherein each of the second and fourth sides are vertical in an integrated circuit, and comprise a plurality of spaced, parallel, vertical cylinders.

20. The inductor of claim 1, wherein the surface rotational portion comprises:
a plurality of substantially flat sides, wherein a first one of the plurality of substantially flat sides is coupled to receive a current from an input node, a second one of the plurality of substantially flat sides is coupled to provide a current to an output node, and the other ones of the plurality of substantially flat sides are coupled in series between the first and second ones of the plurality of substantially flat sides.

21. The inductor of claim 1, wherein the surface rotational portion has a face which may be generated by moving a curve around a central axis line at a distance from the central axis line.

22. The inductor of claim 21, wherein the distance has different values at different angular locations around the central axis line.

23. The inductor of claim 1 wherein a ratio of the length of the surface rotational portion to the thickness of the surface rotational portion is greater than 5:1.

24. The inductor of claim 23 wherein a ratio of the length of the surface rotational portion to the thickness of the surface rotational portion is in a range from 50:1 to 1000:1.

25. An integrated circuit comprising at least one inductor of claim 1.

26. The integrated circuit of claim 25 further comprising:
an integrated circuit die; and
metal layers built upon the integrated circuit die; wherein
the inductor is embedded within at least one of the integrated circuit die and the metal layers.

27. An information processing system including an integrated circuit comprising at least one inductor of claim 1.

28. A method of generating an inductance, the method comprising:
inputting current to a first terminal coupled to a first side edge of a surface rotational portion of an inductor; and
tapping an output current from a second terminal coupled to a second side edge of the surface rotational portion of the inductor, wherein the current rotates within the surface rotational portion of the inductor to generate an inductance.

29. A method comprising the step of providing an inductor having an input node and an output node, and a conductive surface rotational portion coupled between the input and the output nodes, wherein the surface rotational portion has a length that is substantially larger than a thickness of the surface rotational portion.

30. The method of claim 29 further comprising the step of applying a voltage difference across the input and output to generate a current through the surface rotational portion.

31. The method of claim 29 wherein the providing the inductor includes providing a cylindrical or rectangular surface rotational portion.

32. The method of claim 31 wherein the inductor is rectangular, and the providing the inductor comprises:

providing a plurality of substantially flat sides, wherein a first one of the plurality of substantially flat sides is coupled to receive a current from an input node, a second one of the plurality of substantially flat sides is coupled to provide a current to an output node, and the other ones of the plurality of substantially flat sides are coupled in series between the first and second ones of the plurality of substantially flat sides.

33. The method of claim 29 further comprising providing an integrated circuit including the inductor.